

Abstract of the Disclosure

A diaphragm valve includes a heating body that thermally contacts a valve body of the valve and extends proximal to a diaphragm of the valve opposite a valve passage through which medium flows. The heating body forms a thermally conductive pathway between the valve body and the diaphragm that facilitates maintaining an operating temperature at the diaphragm. When used in an atomic layer deposition (ALD) system, the diaphragm valve inhibits condensation or freezing of high-temperature ALD precursor gases in the valve passage. A plunger including thermally insulating features preferably extends through a central opening in the heating body to operably couple a valve actuator to the diaphragm. In some embodiments, a thermally resistive member may be interposed between the valve passage and the actuator for attenuating heat transfer between the valve passage and the actuator.